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City of Long Beach

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JOHN A. MIRANDO, P.E.
COMMISSIONER
DEPARTMENT OF PUBLIC WORKS

September 21, 2017

Anna Servidone
Project Manager
New York State Department of Environmental Conservation
625 Broadway
Albany, NY 12233-3504

RE: Long Beach Groin Failures

Dear Ms. Servidone,

This letter is to document City of Long Beach (City) concerns with the apparent structural failure of the groins rehabilitated as part of the Hurricane and Storm Damage Reduction Project on Long Beach Island (Project) and to request immediate action to remediate the situation.

The observed performance of the reconstructed groins indicate a failure in structural stability evidenced by the movement of armor stone causing separation along the slope, which may further destabilize other portions of the structure. We are also aware that the State of New York (State) formalized similar concerns in a September 8, 2017 email sent from Ms. Susan McCormick to the U.S. Army Corps of Engineers (Corps) staff, including Corps Project Manager Mr. Dan Falt. In that message, Ms. McCormick requested an immediate meeting with the Corps to discuss issue, citing serious concerns related to failure in light of relatively small wave activity. The City shares these concerns and requests involvement in all associated meetings and correspondence.

The photograph below of Groin 32 located on Grand Boulevard provides an example of the structural failure we have observed (Figure 1). From the photograph, it is apparent that armor

stone boulders on the seaward portion of the groin slope have slid seaward and down, resulting in separation along the top and east (right) side of the groin. Several factors can contribute to this type of failure, including the use of boulders of improper shape, size or weight, non-interlocking boulder placement, lack of adequate foundation for scour protection, and/or the lack of overall structural stability sufficient to combat wave activity.

On April 5, 2017, the Corps provided the City with Revision 3 of CS-308 specific to the redesign of the timber portions of the existing groins (Figure 2). This design included core/bedding (foundation) stone at Stations 0+00 and 0+50, but does not indicate any bedding stone seaward of Station 0+50. Should this reflect the final design that was used for the plans and specifications, the groins might not have adequate foundation material to protect the base of the structure from the scouring action of waves and currents.

Our ongoing concern for the future is that the groin performance represents an inferior design and/or poor construction that will not provide the City with the protection for which the groins were intended.

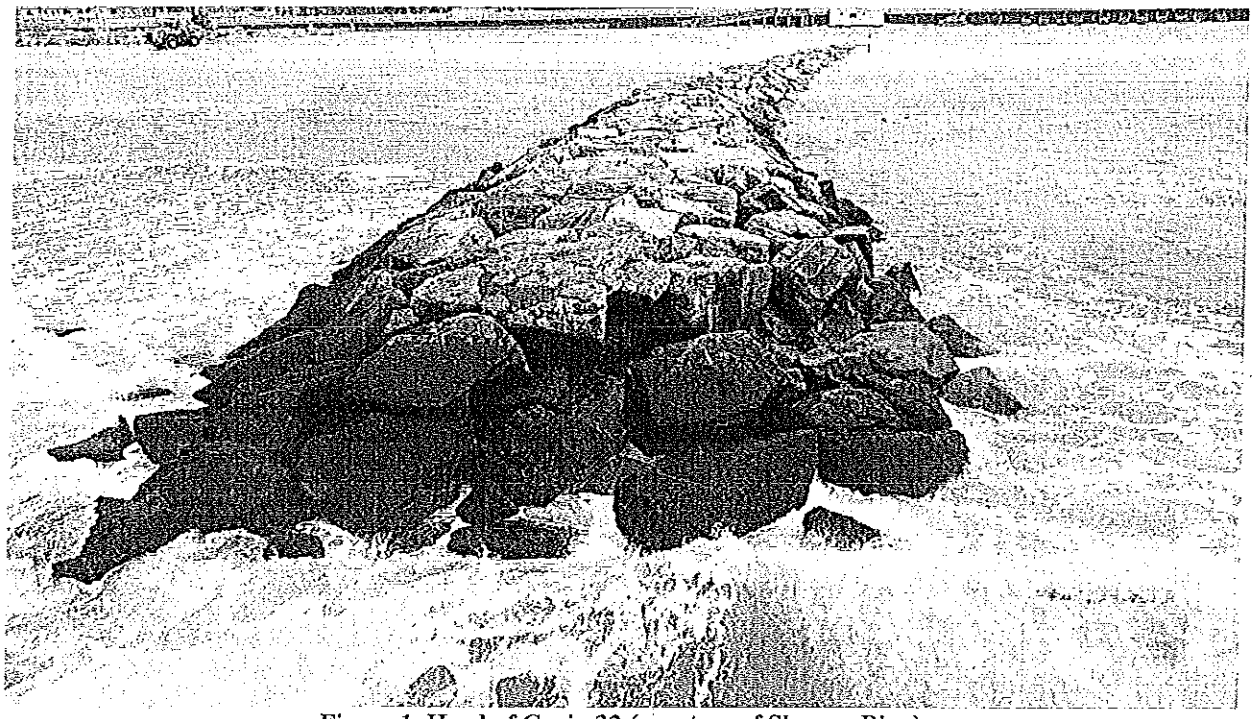

Figure 1. Head of Groin 32 (courtesy of Shewen Bian)

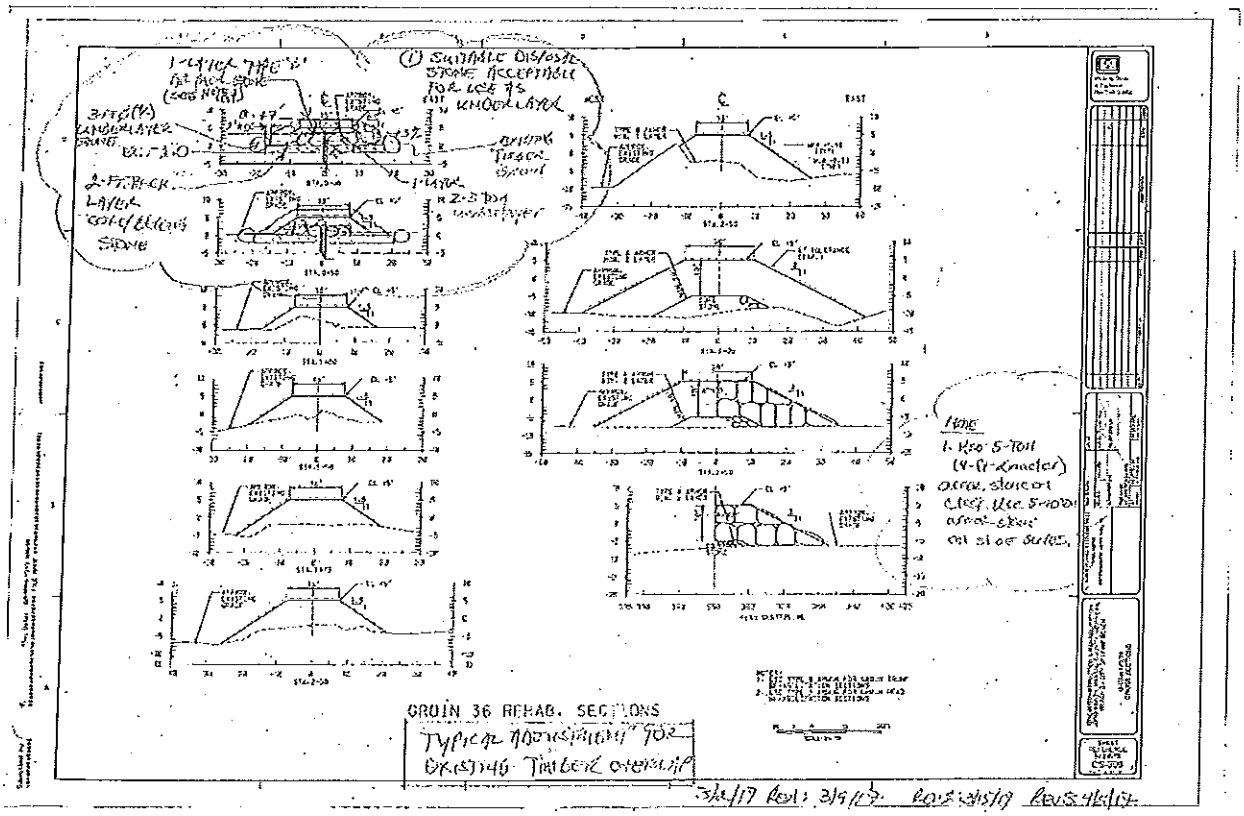

Figure 2. Revision 3, CS-308.

According to Article IX of the Project Partnership agreement between the City and the State, the Non-Federal Sponsor, at no cost to the Government, shall operate, maintain, repair, rehabilitate, and replace the Project. Based on the performance of the rehabilitated groins over their brief lifespan and in response to relatively small wave activity, the City must reject this responsibility, and we would encourage the State to do the same. In order to avoid such a situation, we urge you to work with the Corps to assess the problem and develop an appropriate solution before the groins degrade further. Upon review of our comments, please obtain responses from the Corps and request a meeting to discuss the groin stability issues.

Thank you in advance for considering these concerns. The City is committed to working with the State and the Corps to move the Project forward and eagerly anticipates a detailed plan on how to prevent the groins from further failure. If you have any questions, please contact me by email at jmirando@longbeachny.gov, or by telephone at (561) 431-1011.

Sincerely,

John Mirando, P.E.
Commissioner of Public Works

cc: Jack Schnirman, City Manager
James LaCarrubba, Senior Advisor for Resiliency and Recovery
Joe Febrizio, Deputy Commissioner of Public Works